Draft Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Public Hearing
February 7, 2017

Agenda

- Provisions Presented in Two Parts
  - Beneficial Uses
  - Water Quality Objectives and Implementation
- Scientific Peer Review
- Questions/Comments

Project Schedule

- Draft Language and Staff Report: Jan. 3, 2017
- Written Comment Period: Jan. 3 – Feb. 17, 2017
- First Staff Workshop: Jan. 9, 2017
- Second Staff Workshop: February 1, 2017
- SWRCB Hearing (Oral Comments): Feb. 7, 2017
- SWRCB Meeting to Consider Adoption: TBD [May 2017]

The First Component: Proposed Beneficial Uses

Beneficial Uses

SWRCB Board adopted Resolution 2016-0011 (Feb. 16, 2016), directing staff to:

- Develop proposed tribal and substistence beneficial uses with the Mercury Objectives project
- Solicit input from the public
- Bring an informational item to the Board to report on public input
- This was in response to stakeholder outreach by Staff from October 2014 – February 2015

Beneficial Uses: Outreach to Stakeholders

Group	Location, Date
Second CEQA Scoping Meeting	Sacramento, Oakland, Redding, and Riverside, March 5 – March 12, 2012
Tribal Ad-hoc Committee	Lower Lake, May 5, 2016
Agriculture Representatives	Sacramento, May 12, 2016
Association California Water Agencies	Sacramento, May 13, 2016
Association California Water Agencies	Sacramento (and webcast), June 15, 2016
Southern California Tribal Representatives	Coachella, June 27, 2016
Municipal Storm Water and Wastewater	Sacramento (and webcast), July 12, 2016
Northern California Tribal Representatives	Loleta (Eureka), July 15, 2016
Central California Tribal Representatives	Sacramento (and webcast), July 20, 2016
NGOs and Environmental Justice Groups	Sacramento (and webcast), July 26, 2016
Industry	Sacramento (and webcast), July 26, 2016
Ag, Dairy, Grazers	Sacramento (and webcast), July 27, 2016

Beneficial Uses: Additional Board Presentation

- Developed and Posted “Frequently Asked Questions”
- Informational Item presented after conducting outreach on September 20, 2016
- Board reaffirmed direction from prior meeting on February 16, 2016 to develop the tribal and subsistence beneficial uses

Beneficial Uses

- Tribal Tradition and Culture
- Tribal Subsistence Fishing
- Subsistence Fishing

Beneficial Uses

Tribal Tradition & Culture

Uses of water that support the cultural, spiritual, ceremonial, or traditional rights or LIFEWAYS of California Native American Tribes, including, but not limited to: navigation, ceremonies, or fishing, gathering, or consumption of natural aquatic resources, including fish, shellfish, vegetation, and materials.

Beneficial Uses

Tribal Tradition & Culture

- Specific to California Native American Tribal practices & sovereignty
- Designed to protect traditional and cultural activities—Designations must be confirmed by a California Native American Tribe
- Examples include:
  - Water immersion ceremonies
  - Gathering aquatic materials, such as reeds for basket weaving
  - Collection and use of aquatic plants used for food and medicines

Beneficial Uses

Tribal Subsistence Fishing

Uses of water involving the non-commercial catching or gathering of natural aquatic resources, including fish and shellfish, for consumption by individuals, households, or communities of California Native American Tribes to meet minimal needs for sustenance.

Beneficial Uses

Tribal Subsistence Fishing

- Specific to California Native American Tribes– Designations must be confirmed by a California Native American Tribe
- Protects tribes who consume fish and shellfish at levels above the average recreational fisher
- Relates to the protection of human health
- Does not protect the quantity of fish or their habitat

Beneficial Uses

Subsistence Fishing

Uses of water involving the non-commercial catching or gathering of natural aquatic resources, including fish and shellfish, for consumption by individuals, households, or communities, to meet minimal needs for sustenance.

Beneficial Uses

Subsistence Fishing

- Protects people who consume fish and shellfish at levels above the average recreational fisher.
- Relates to the protection of human health
- Does not protect the quantity of fish or their habitat

Beneficial Uses

Designation

- Establishing the definitions does not designate any waters with those uses
- Water-body designation occurs through a **subsequent** Water Board planning process
  - Requires notice, public participation, hearing and adoption meeting
  - Requires approval by the State Water Board, OAL, EPA

Second Component: Proposed Mercury Objectives and Implementation

Why are new objectives needed?

Current statewide criteria for mercury (California Toxics Rule, 2000)

- Not protective of threatened and endangered species
  - Lawsuit against U.S. EPA and settlement (consent decree)
  - June 30, 2017 deadline
- Do not reflect the U.S. EPA 2001 methylmercury criterion for human health

Water Quality Objectives: Outreach to Stakeholders

Group	Location, Date
Initial CEQA Scoping Meeting	Sacramento, February, 2007
Second CEQA Scoping Meeting	Sacramento, Oakland, Redding, and Riverside, March 5 – March 12, 2012
California Native American Tribes	Sacramento (Teleconference), June 27, 2014
Northern California Environmental & Environmental Justice Groups	Sacramento, July 8, 2014
Municipal Wastewater	Sacramento, July 14, 2014
Northern CA Municipal Storm Water Agencies	Sacramento, July 25, 2014
Southern CA Municipal Storm Water Agencies	Costa Mesa, July 31, 2014
Land Managers/Mining Interests	Sacramento, August 7, 2014
Public Health Departments	Sacramento, September 3, 2014
Industrial Wastewater Dischargers	Sacramento, September 11, 2014
Presentation at the U.S. EPA Tribal Conference	Sacramento, October 15, 2016

Mercury Provisions

- Part of the Inland Surface Waters, Enclosed Bays, and Estuaries Plan
  1. Five water quality objectives
  2. Implementation program
- Generally, do not supersede numeric site-specific objectives and TMDLs
- Separate project to address reservoirs

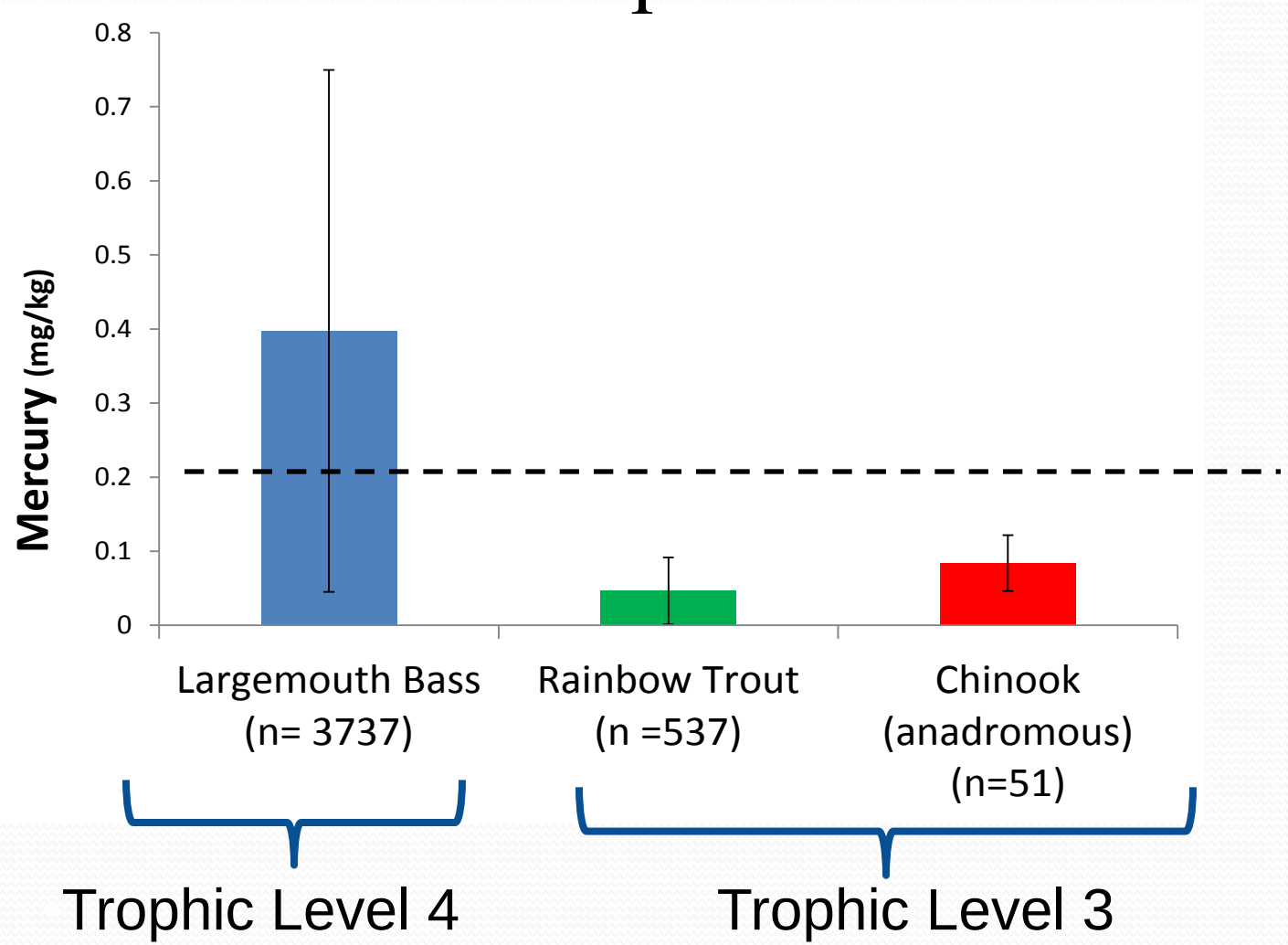
Water Quality Objectives

Five water quality objectives, to protect human heath and wildlife:

1. Sport Fish
2. Tribal Subsistence Fishing
3. Subsistence Fishing (**Narrative**)
4. Prey Fish
5. California Least Tern Prey Fish

Water Quality Objectives

Linked to the fish "trophic level"



Water Quality Objectives

The **Sport Fish Water Quality Objective**

- Protects human health (COMM) at 1 fish meal per week
- Protective of wildlife when measured using Trophic Level 4 fish (e.g., bass)
  - **0.2 mg/kg in fillet of the highest trophic level fish**
  - Similar in stringency to the **Prey Fish Water Quality Objective**
  - Makes assessment for Prey Fish Water Quality Objective unnecessary

Water Quality Objectives

Conversely, when the **Sport Fish Water Quality Objective** is measured in trophic level 3 fish (e.g., trout)…

- Uncertainty of using the Sport Fish objective to protect wildlife increases
- So, the **Prey Fish Water Quality Objective** must also be assessed, to ensure protection of wildlife

Water Quality Objectives

The **Prey Fish Water Quality Objective**

- **0.05 mg/kg, in whole fish 50-150 mm**
- Protects wildlife habitat
- Required when Trophic Level 4 fish are not present

Water Quality Objectives

Approximate habitat

California Least Tern Prey Fish Water Quality Objective

- **0.03 mg/kg in whole fish < 50 mm**
- Ensures protection of an endangered species
- Only for California least tern habitat
- The Prey Fish Water Quality Objective need not be assessed in the same waters

Water Quality Objectives

Tribal Subsistence Fishing Water Quality Objective

- **0.04 mg/kg in mixture of fish**
- More stringent than Sport Fish Objective
- Protective of consumption at 4-5 fish meals per week
- 70% Trophic Level 3 and 30% Trophic Level 4 fish

Water Quality Objectives

Subsistence Fishing Water Quality Objective

- Narrative Objective
- Uses a default consumption rate of 4-5 fish meals per week

Program of Implementation

Municipal Wastewater & Industrial NPDES Permits

- Revises the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) for mercury (Reasonable Potential and Effluent Limitations):
  - Translates fish tissue objectives to water column values
  - Water column values differ based on water body type
  - Uses annual averages to account for long-term nature of bioaccumulation
  - Allows for dilution credits where appropriate

Program of Implementation

Municipal wastewater & industrial discharges

- Includes exceptions to reasonable potential and effluent limitations:
  - **Small disadvantaged communities**
    - Pop. of 20,000 or less, with an annual median household income < 80 % statewide median
  - **Insignificant discharges**
    - Low threat as determined by Regional Board
  - Permit writer must make findings of no reasonable potential

Program of Implementation

Storm water discharges

Municipal Separate Storm Sewer Systems (MS4s) (Many control/prevention measures already in place in municipalities):

- Water Boards may require BMPs to control sediment and erosion—but BMPs required in “areas with elevated mercury concentrations”
- Mercury pollution prevention and control measures. The Water Board may allow a substituted action for one or more of the following:
  1. Enhancement of household hazardous waste collection or exchange programs
  2. Public education on disposal of household mercury-containing products and use of alternative products
  3. Education of auto dismantlers proper use, store, and disposal of mercury switches
  4. Survey of use of mercury-containing products used by the MS4 and development of a policy to eliminate mercury containing products

Program of Implementation

Storm water discharge (continued)

- Caltrans & construction:
  - No new requirements – current permits include sufficient erosion and sediment controls
- Industrial facilities:
  - Updating Numeric Action Level from 1400 ng/L to 300 ng/L

Program of Implementation

Mines—Mercury currently addressed through a number of permit programs and clean up orders

- Erosion & sediment control measures required for closure & post-closure of mining sites where mercury was mined or used for ore processing

Program of Implementation

Wetlands, dredging, and nonpoint sources

- Water Boards have existing authority to require erosion and sediment controls.
- Regulatory language provides guidance:
  - Recommends erosion and sediment controls be considered in “areas with elevated mercury”

Scientific Peer Review

- Overall supportive of proposal
- Changes to amendment:
  - Subsistence objective – change numeric to a narrative to accommodate wide variability
  - Wastewater effluent limitation- more protective for discharges to slower flowing waters

Comments

When & Where to Submit?

- In person:
  - Here at the public hearing—oral comments
- In writing:
  - until **February 17, 2017 (at noon)**
  - commentletters@waterboards.ca.gov
    - Please indicate in the subject line: “Comment Letter -- Beneficial Uses and Mercury Objectives”

Draft Program of Implementation

Municipal wastewater & industrial NPDES permits

Bioaccumulation factors (BAFs)

U.S. EPA			California
Lakes		Rivers	Rivers
5,700,000		1,200,000	1,100,000
	2,700,000 (lakes & rivers combined)		

- Agreement between national and California data
- Most discharge into flowing water bodies

Draft Program of Implementation

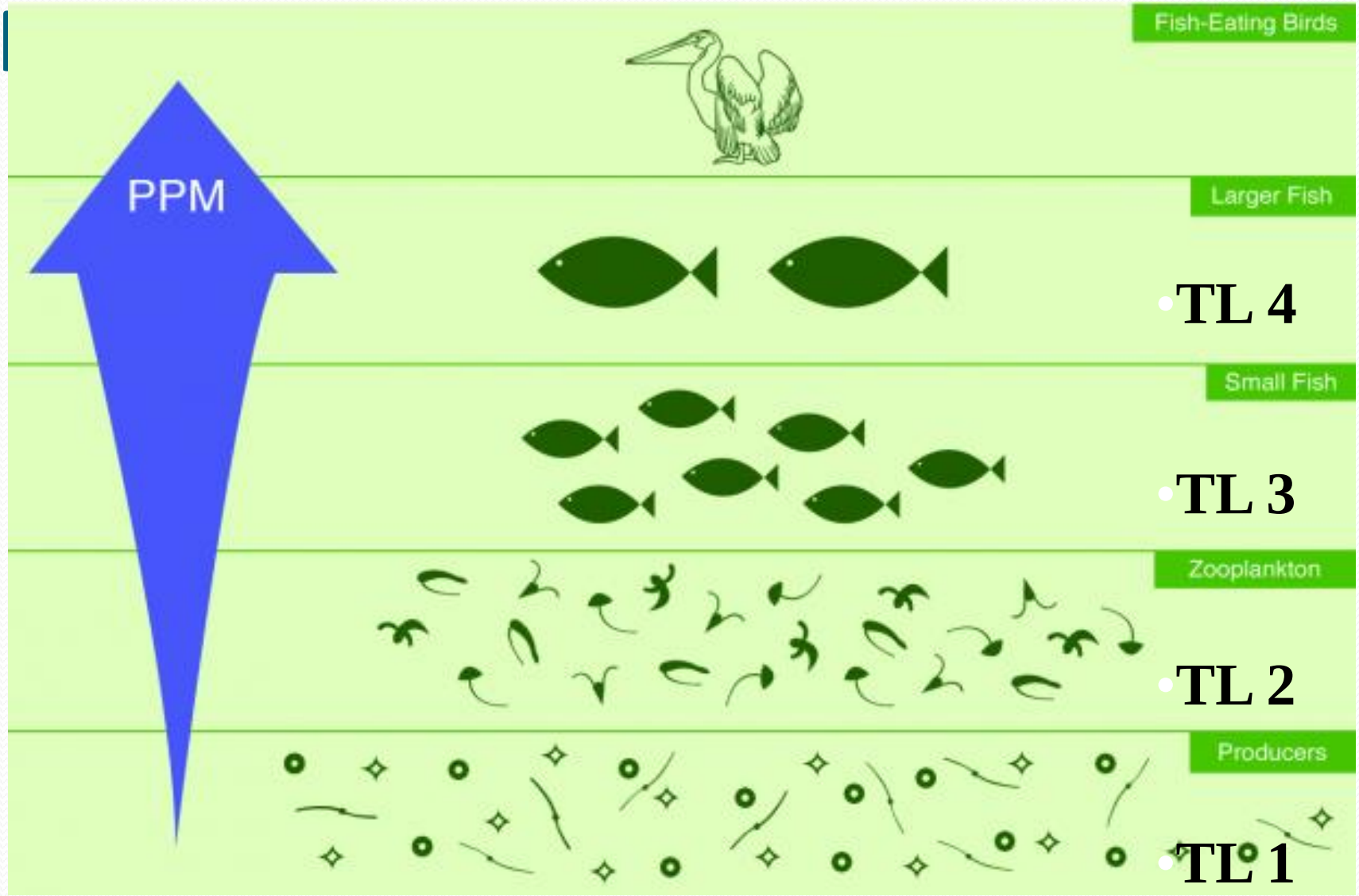
Municipal wastewater & industrial discharge

Bioaccumulation factors (BAFs)

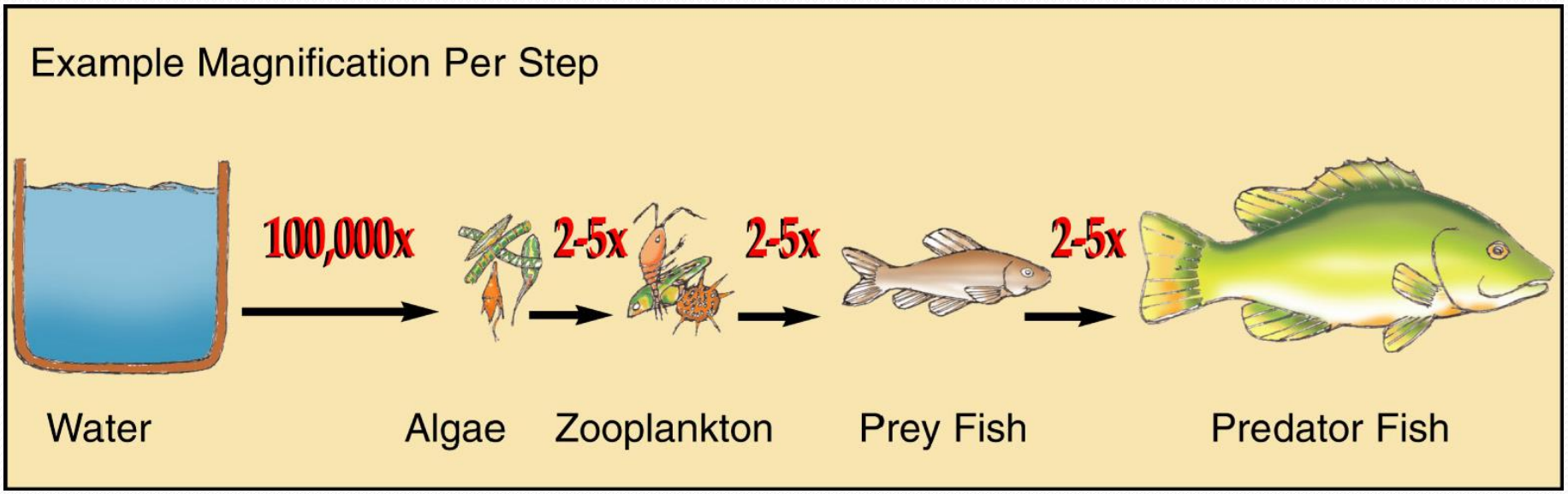
U.S. EPA		California
Lakes	Rivers	Rivers
5,700,000	1,200,000	1,100,000
2,700,000 (lakes & rivers combined)		

Used to determine effluent limitation for discharges to "slow moving waters"

Used to determine effluent limitation for discharges to rivers


Fish-Eating Birds
PPM
Larger Fish
TL 4
Small Fish
TL 3
Zooplankton
TL 2
Producers
TL 1

Methylmercury Bioaccumulation



Water Quality Objectives

Linked to the fish "trophic level"

Highest mercury levels are found in **trophic level 4 fish**

Trophic Level	Explanation	Example
1	Primary producers	algae
2	Feeds on trophic level 1	zooplankton
3	Fish that feed on trophic level 1 & 2	trout, salmon, prey fish
4	Fish that feed on trophic level 3	black bass, striped bass

Water Quality Objectives

Objective	Beneficial Uses	Objective (methylmercury in fish tissue)
Sport Fish	Commercial & Sport Fishing, Wildlife Habitat Tribal Tradition & Culture	0.2 mg/kg in fillet of the highest trophic level fish, 150-500 mm (≈ 6 – 20 in) (I fish meal per week)
Tribal Subsistence Fishing	Tribal Subsistence Fishing	0.04 mg/kg in mixture of fish (70% TL3, 30% TL4) 150-500 mm (≈ 6 – 20 in) (4-5 fish meals per week)
Subsistence Fishing	Subsistence Fishing	Narrative objective (4-5 fish meals per week)

Water Quality Objectives

Objective	Beneficial Uses	Objective (methylmercury in fish tissue)
Prey Fish	Wildlife Habitat	0.05 mg/kg, in whole fish 50-150 mm (≈ 2 - 6 inches)
California Least Tern Prey Fish	Rare, Threatened, or Endangered Species (California Least Tern Habitat)	0.03 mg/kg in whole fish < 50 mm (less than 2 inches)

Program of Implementation

Municipal wastewater & industrial discharges

Water column thresholds

- Sport Fish, Prey Fish, Least Tern Objectives:
  - Rivers (“flowing waters”):
    - 12 ng/L
    - Estimated 92% or 283 facilities currently meet
  - Lagoons and Marshes (“slow moving waters”)
    - 4 ng/L
    - Estimated 73% or 222 facilities currently meet
  - Lakes and Reservoirs: few discharges
    - Case-by-case

Program of Implementation

Municipal wastewater & industrial discharges

Water column thresholds

- Tribal Subsistence Water Quality Objective
  - Rivers ("flowing waters"):
    - 4 ng/L
    - Est. 73% or 222 facilities currently meet
  - Lagoons and Marshes ("slow moving waters")
    - 1 ng/L
    - Est. 27% or 83 facilities currently meet
  - Lakes and Reservoirs: few discharges
    - Case-by-case

Program of Implementation

Municipal wastewater & industrial discharges

Water column thresholds

- Subsistence Water Quality Objective
  - Case-by-case
    - Regional board would determine a water column threshold based on available data (e.g., U.S. EPA bioaccumulations factors)

Program of Implementation

Routine Monitoring Requirements:

- If effluent limitations
  - If at 5 MGD or greater – quarterly
  - If less than 5 MGD – annually
- If no effluent limitations
  - Once per permit cycle

Program of Implementation

“Areas with Elevated Mercury”:

1. Coast Range mountains, 1 mg/kg total mercury or higher;
2. Industrial areas with soil or sediments, 1 mg/kg total mercury or higher;
3. Historic mercury, silver, or gold mine tailings;
4. Historic hydraulic gold mining pits;
5. Other area determined by permit writer